

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Daniel F. Sievenpiper,	)	Re: Information Disclosure
et al.	)	Statement
	)	
Serial No.: Not yet assigned	)	
Filed: concurrently herewith	)	
	)	
Divisional of USSN 09/905,794	)	
filed on July 13, 2001	)	Our Ref: B-4046DIV 621280-9
	)	
For: "MOLDED HIGH IMPEDANCE SURFACE	)	
AND A METHOD OF MAKING SAME"	)	Date: December 5, 2003

Mail Stop Patent Application  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the Applicant's duty to disclose information which may be material to the examination of this application, the undersigned respectfully requests that the documents cited by the Examiner and/or submitted by the Applicant in connection with U.S. Serial No. 09/905,794 filed on July 13, 2001 (the parent of the Applicants' subject application) be considered by the Examiner before issuing the first Office Action on the merits.

For the Examiner's convenience, Form PTO-1449 (modified) is enclosed herewith listing the documents cited by the Examiner and/or submitted by the Applicant in connection with U.S. Serial No. 09/905,794.

The filing of this Information Disclosure Statement (IDS) shall not be construed as a representation that a search has been made (37 C.F.R. 1.97(g)), an admission that the information cited is, or is considered to be, material to patentability, or that no other material information exists.

Information Disclosure Statement  
Divisional of USSN 09/905,794  
December 5, 2003  
Page 2

If any fees are due, please charge our Deposit Account No. 12-0415 or credit any overpayment to our Account No. 12-0415. No fees should be due because this Information Disclosure Statement is being filed concurrently with the above-identified U.S. patent application.

The filing of this Information Disclosure Statement shall not be construed as an admission against interest in any manner. (Notice of January 9, 1992, 1135 O.G. 13-25, at 25.)

The person making this statement is the practitioner who signs below on the basis of information supplied by an individual associated with the filing and prosecution of this application (37 C.F.R. § 1.56(c)) and on the basis of information in the practitioner's file.

Respectfully submitted,



Richard P. Berg  
Attorney for Applicant  
Reg. No. 28,145

LADAS & PARRY  
5670 Wilshire Boulevard  
Suite 2100  
Los Angeles, CA 90036  
Telephone: (323) 934-2300  
Telefax: (323) 934-0202  
Los Angeles, CA 90036

Enclosures: Form PTO-1449 (modified) (5 pages)

Information Disclosure Statement  
Divisional of USSN 09/905,794  
December 5, 2003  
Page 3

<b>Form PTO-1449 (Modified)</b>	<b>ATTY DOCKET NO.</b> B-4046DIV 621280-9	<b>U.S. SERIAL NO.</b> not yet assigned
<b>LIST OF PATENTS AND PUBLICATIONS STATEMENT</b>	<b>APPLICANTS</b> Daniel Sievenpiper, et al.	
	<b>FILING DATE</b> not yet assigned	<b>GROUP</b> not yet assigned

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	ISSUE DATE	NAME	CLASS	SUB-CLASS	FILING DATE or 102(e) DATE IF APPROPRIATE
	3,267,480	08/1966	Lerner	343	911	02/23/61
	3,810,183	05/1974	Krutsinger et al.	343	708	12/18/70
	3,961,333	06/1976	Purinton	343	872	08/29/74
	4,150,382	04/1979	King	343	754	10/03/75
	4,266,203	05/1981	Saudreau et al.	333	21	02/22/78
	4,308,541	12/1981	Seidel et al.	343	786	
	4,325,780	04/1982	Schultz	156	659.1	
	4,387,377	06/1983	Kandler	343	756	06/02/81
	4,594,595	06/1986	Struckman	343	770	04/18/84
	4,737,795	04/1988	Nagy et al.	343	712	07/25/86
	4,749,996	06/1988	Tresselt	343	700	11/14/85
	4,758,459	07/1988	Mehta	428	131	
	4,760,402	07/1988	Mizuno et al.	343	713	
	4,782,346	11/1988	Sharma	343	795	03/11/86
	4,821,040	04/1989	Johnson et al.	343	700 MS	
	4,835,541	05/1989	Johnson et al.	343	713	12/29/86
	4,843,400	06/1989	Tsao et al.	343	700	08/09/88
	4,843,403	06/1989	Lalezari et al.	343	767	07/29/87
	4,853,704	08/1989	Diaz et al.	343	767	05/23/88
	4,905,014	02/1990	Gonzalez et al.	343	909	04/05/88

Information Disclosure Statement  
Divisional of USSN 09/905,794  
December 5, 2003  
Page 4

	5,021,795	06/1991	Masiulis	343	700	06/23/89
	5,023,623	06/1991	Kreinholder et al.	343	725	12/21/89
	5,081,466	01/1992	Bitter Jr.	343	767	05/04/90
	5,115,217	05/1992	McGrath et al.	333	246	12/06/90
	5,146,235	09/1992	Frese	343	895	12/13/90
	5,158,611	10/1992	Ura et al.	106	499	08/22/91
	5,177,493	01/1993	Kawamura	343	713	
	5,193,256	03/1993	Ochiai	29	25.35	
	5,208,603	05/1993	Yee	343	909	06/15/90
	5,268,701	12/1993	Smith	343	767	02/09/93
	5,287,118	02/1994	Budd	343	909	06/11/91
	5,369,881	12/1994	Inaba	29	846	
	5,402,134	03/1995	Miller et al.	343	742	03/01/93
	5,519,408	05/1996	Schnetzer	343	767	06/26/92
	5,525,954	06/1996	Komazaki et al.	333	219	07/22/94
	5,531,018	07/1996	Saia et al.	29	622	12/20/93
	5,532,709	07/1996	Talty	343	819	11/02/94
	5,534,877	07/1996	Sorbello et al.	343	700	09/24/93
	5,541,614	07/1996	Lam et al.	343	792.5	04/04/95
	5,557,291	09/1996	Chu et al.	343	725	05/25/95
	5,589,845	12/1996	Yandrofski et al.	343	909	06/07/95
	5,611,940	03/1997	Zettler	73	514	04/28/95
	5,638,946	06/1997	Zavracky	200	181	01/11/96
	5,682,168	10/1997	James et al.	343	713	
	5,694,134	12/1997	Barnes	343	700	01/14/94
	5,721,194	02/1998	Yandrofski et al.	505	210	06/07/95
	5,818,394	10/1998	Aminzadeh et al.	343	713	
	5,847,454	12/1998	Shaw	257	734	
	5,850,198	12/1998	Lindenmeier et al.	343	713	
	5,874,915	02/1999	Lee et al.	342	375	08/08/97

Information Disclosure Statement  
Divisional of USSN 09/905,794  
December 5, 2003  
Page 5

	5,892,485	04/1999	Glabe et al.	343	789	02/25/97
	5,894,288	04/1999	Lee et al.	343	770	08/08/97
	5,917,458	06/1999	Ho et al.	343	909	09/08/95
	5,923,303	07/1999	Schwengler et al.	343	853	12/24/97
	5,929,819	07/1999	Grinberg	343	754	
	5,945,951	08/1999	Monte et al.	343	700	08/31/98
	5,949,382	09/1999	Quan	343	767	05/20/94
	6,005,519	12/1999	Burns	343	700	09/04/96
	6,005,521	12/1999	Suguro et al.	343	700 MS	
	6,037,912	03/2000	DeMarre	343	815	
	6,040,803	03/2000	Spall	343	700	02/19/98
	6,046,655	04/2000	Cipolla	333	137	
	6,054,659	04/2000	Lee et al.	200	181	03/09/98
	6,075,485	06/2000	Lilly et al.	343	700	11/03/98
	6,081,235	06/2000	Romanofsky et al.	343	700	04/30/98
	6,081,239	06/2000	Sabet et al.	343	753	
	6,091,367	07/2000	Kabashima et al.	343	700 MS	
	6,097,263	08/2000	Mueller et al.	333	17.1	06/27/97
	6,097,343	08/2000	Goetz et al.	343	708	10/23/98
	6,118,406	09/2000	Josypenko	343	700	12/21/98
	6,118,410	09/2000	Nagy	343	713	07/29/99
	6,127,908	10/2000	Bozler et al.	333	246	11/17/97
	6,154,176	11/2000	Fathy et al.	343	700	04/30/99
	6,166,705	12/2000	Mast et al.	343	853	07/20/99
	6,175,337 B1	01/2001	Jasper, Jr. et al.	343	770	09/17/99
	6,191,724 B1	02/2001	McEwan	342	21	01/28/99
	6,208,316 B1	03/2001	Cahill	343	909	09/11/97
	6,218,978 B1	04/2001	Simpkin et al.	342	5	06/22/95
	6,246,377 B1	06/2001	Aiello et al.	343	770	08/27/99
	6,261,963	07/2001	Zhao	438	704	

**FOREIGN PATENT DOCUMENTS**

		DOCUMENT NUMBER	ISSUE DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES/NO
		DE 196 00 609 A1	04/1997	DE			
		0 539 297	04/1993	EP			
		2 785 476	05/2000	FR			
		2 281 662	03/1995	GB			
		2 328 748	03/1999	GB			
		96/29621	09/1996	WO			
		98/21734	05/1998	WO			
		00/44012	07/2000	WO			
		94/00891	01/1994	WO			
		99/50929	10/1999	WO			

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

Balanis, C., "Aperture Antennas," <i>Antenna Theory, Analysis and Design</i> , 2nd edition, John Wiley & Sons, New York, Chap. 12, pp. 575-597 (1997).
Balanis, C., "Microstrip Antennas," <i>Antenna Theory, Analysis and Design</i> , 2nd edition, John Wiley & Sons, New York, Chap. 14, pp. 722-736 (1997).
Bradley, T.W., et al., "Development of a Voltage-Variable Dielectric (VVD), Electronic Scan Antenna," <i>Radar 97</i> , Publication No. 449, pp. 383-385 (October 1997).
Cognard, J., "Alignment of Nematic Liquid Crystals and Their Mixtures," <i>Mol. Cryst. Liq. Cryst.</i> , Suppl. 1, 1 (1982) pp. 1-74.
Doane, J.W., et al., "Field Controlled Light Scattering from Nematic Microdroplets," <i>Appl. Phys. Lett.</i> , Vol. 48, pp. 269-271 (January 1986).
Ellis, T.J. and G.M. Rebeiz, "MM-Wave Tapered Slot Antennas on Micromachined Photonic Bandgap Dielectrics," <i>1996 IEEE MTT-S International Microwave Symposium Digest</i> , Vol. 2, pp. 1157-1160 (1996).
Jensen, M.A., et al., "EM Interaction of Handset Antennas and a Human in Personal Communications," <i>Proceedings of the IEEE</i> , Vol. 83, No. 1, pp. 7-17 (January 1995).

Information Disclosure Statement  
Divisional of USSN 09/905,794  
December 5, 2003  
Page 7

Jensen, M.A., et al., "Performance Analysis of Antennas for Hand-held Transceivers using FDTD," <i>IEEE Transactions on Antenna and Propagation</i> , Vol. 42, No. 8, pp. 1106-1113 (August 1994).
Linardou, I., et al., "Twin Vivaldi antenna fed by coplanar waveguide," <i>Electronics Letters</i> , Vol. 33, No. 22, pp. 1835-1837 (October 23, 1997).
Perini, P. and C. Holloway, "Angle and Space Diversity Comparisons in Different Mobile Radio Environments," <i>IEEE Transactions on Antennas and Propagation</i> , Vol. 46, No. 6, pp. 764-775 (June 1998).
Ramo, S., et al., <i>Fields and Waves in Communication Electronics</i> , 3rd edition (New York, John Wiley & Sons, 1994) Section 9.8-9.11, pp. 476-487.
Schaffner, J.H., et al., "Reconfigurable Aperture Antennas Using RF MEMS Switches for Multi-Octave Tunability and Beam Steering," <i>IEEE</i> , pp. 321-324 (2000).
Sievenpiper, D., et al., "Low-profile, four-sector diversity antenna on high-impedance ground plane," <i>Electronics Letters</i> , Vol. 36, No. 16, pp. 1343-1345 (August 3, 2000).
Sievenpiper, D. and Eli Yablonovitch, "Eliminating Surface Currents with Metallodielectric Photonic Crystals," <i>1998 IEEE MTT-S International Microwave Symposium Digest</i> , Vol. 2, pp. 663-666 (June 7, 1998).
Sievenpiper, D., et. al., "High-Impedance Electromagnetic Surfaces with a Forbidden Frequency Band," <i>IEEE Transactions on Microwave Theory and Techniques</i> , Vol. 47, No. 11, pp. 2059-2074 (November 1999).
Sevenpiper, D., "High-Impedance Electromagnetic Surfaces," <i>Ph.D. Dissertation</i> , Dept. of Electrical Engineering, University of California, Los Angeles, CA, 1999.
Vaughan, R., "Spaced Directive Antennas for Mobile Communications by the Fourier Transform Method," <i>IEEE Transactions on Antennas and Propagation</i> , Vol. 48, No. 7, pp. 1025-1032 (July 2000).
Wu, S.T., et al., "High Birefringence and Wide Nematic Range Bis-tolane Liquid Crystals," <i>Appl. Phys. Lett.</i> , Vol. 74, No. 5, pp. 344-346 (January 1999).

EXAMINER	DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.